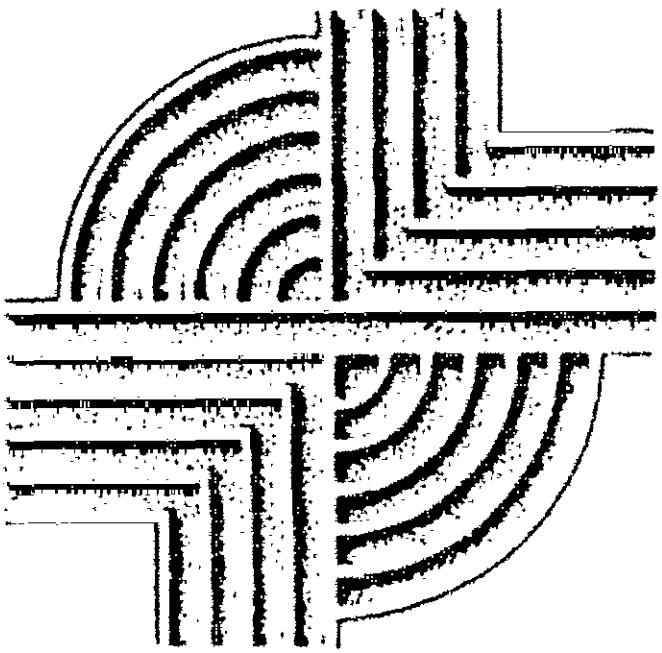
ARCHAEOLOGICAL SURVEY OF A PORTION OF THE WHITEHALL TRACT, DORCHESTER COUNTY, SOUTH CAROLINA



CHICORA RESEARCH CONTRIBUTION 286

ARCHAEOLOGICAL SURVEY OF A PORTION OF THE WHITEHALL TRACT, SEASIDE PLANTATION, DORCHESTER COUNTY, SOUTH CAROLINA

Prepared By:
Michael Trinkley, Ph.D., RPA

Prepared For:
Mr. John Templeton
Special Properties
216 Calhoun Street
Charleston, South Carolina 29401

CHICORA RESEARCH CONTRIBUTION 286

Chicora Foundation, Inc.
PO Box 8664
Columbia, SC 29202-8664
803/787-6910
Email: chicora@bellsouth.net
www.chicora.org

January 28, 2000

ABSTRACT

This study reports on an intensive archaeological survey of a 20.5 acre tract of property in Whitehall Plantation on the Ashley River in the southeastern corner of Dorchester County, South Carolina. The property, currently being developed by Special Properties, will be subdivided into multiple lots, although we understand that the density will not be as great as the remainder of Whitehall to the north of this parcel. In anticipation of OCRM permits, Special Properties requested that Chicora Foundation conduct this archaeological and historical investigation of the property.

The tract consists of a peninsula which gradually slopes southward toward the Ashley River. There is no deep water access, although it is surrounded by marsh on its eastern, southern, and western sides. Elevations range from about 6 to 18 feet in the survey tract, with much of the property exhibiting rather low, wet soils.

Consultation with the S.C. Department of Archives and History revealed that the proposed project is within the boundaries of the Ashley River Historic District, the Ashley River Special Area Management Plan, as well as within the boundaries of the Middleton Place National Historic Landmark Geographical Area of Particular Concern view-shed (Middleton Place is situated to the southwest, on the opposite side of the Ashley River). The S.C. Institute of Archaeology and Anthropology site files reveal that the tract is within the original site boundaries of Middleton Place (likely because the Middleton Place Foundation originally owned this tract of land). There are a number of archaeological sites in the general vicinity, although none have been reported for the study tract. Brockington and Associated has previously surveyed a large portion of Whitehall Plantation to the north of this tract. Additional historic research was limited to a review of secondary sources for the immediate project area.

Although much of the property is relatively low, exhibiting only moderately well drained soils, we chose to conduct shovel testing at 100-foot intervals since the tract is in a historically sensitive area. All fill was screened through ¼-inch mesh and the shovel tests were backfilled at the completion of the study.

Although this tract is situated within the boundaries of a previously recorded archaeological site; this survey failed to identify any cultural materials. Of greater concern is possible visual intrusion of the proposed development on the Middleton Place viewscape. Ensuring adequate setbacks and requiring vegetative buffers may be adequate to eliminate any visual intrusion.

It is possible that archaeological remains may be encountered in the corridor during construction. Construction crews should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to Chicora Foundation or the State Historic Preservation Officer. No construction should take place in the vicinity of these late discoveries until they have been examined by an archaeologist.

TABLE OF CONTENTS

LIST OF FIGURES

ACKNOWLEDGMENTS

I want to thank Mr. Tom Covington and Ms. Autumn Perkins of our staff who were responsible for assembling the background information for this project. Mr. Covington also assisted with the field investigations. I appreciate their dedication and thoroughness.

In addition, I appreciate the assistance and cooperation of Mr. Keith Derting, of the S. C. Institute of Archaeology and Anthropology, for his assistance sorting through previous investigations in the area. We also appreciate the continued kindness of Dr. Tracy Power, at the S.C. Department of Archives and History, who provided us with information concerning the information in his agency's files.

Finally, I want to thank Special Properties for their concern regarding the cultural resources of South Carolina, as well as their continuing support of Chicora Foundation.

INTRODUCTION

Project Background

This work was conducted for Mr. John Templeton, Special Properties, by Dr. Michael Trinkley, with assistance from Mr. Tom Covington, of Chicora Foundation. The project involves the historical and archaeological survey of a 26.5 acre tract of property situated on the southern edge of the Whitehall Plantation development on the east side of the Ashley River in Dorchester County, South Carolina (Figures 1 and 2).

The survey tract is bordered to the north by Whitehall Plantation, and to the east, south, and west by the marshes of the Ashley River. The tract is dominated by the Whitehall subdivision to the north. Immediately adjacent to the study property the area is still wooded and little development has taken place beyond utility and road construction. This particular area of Dorchester County has seen exceptional growth and development over the past 20 years, with what was originally almost entirely wooded tracts being transformed into a series of housing developments. What historically was known as Cedar Grove is today known as the Whitehall Plantation development.

The current tract is perhaps the last section of the original plantation undeveloped and this study was conducted to assist the owner, and the real estate agent of record, comply with their cultural resource requirements as they seek to obtain permits from the Office of Ocean and Coastal Resource Management.

The investigation consists of an archaeological survey of the 26.5 acre tract; historic research, however, focuses on the much larger area of Cedar Grove which has been previously investigated (Bailey et al. 1999). Background research included an examination of records at the S.C. Institute of Archaeology and Anthropology for information on previously recorded archaeological sites in the area, as well as an examination of the files of the S.C. Department of Archives and History for information on previous architectural surveys of the area, as well as for information on National Register sites in the study vicinity.

The field investigation was conducted by Dr. Michael Trinkley and Mr. Tom Covington on December 15, 1999. A total of 16 person hours were spent on-site conducting the survey. An additional 6-person hours were devoted to the examination of secondary historical documents associated with the study area.

Natural Environment

The project area is situated in the southeastern portion of Dorchester County, just northwest of the Charleston County border. The project area is situated on a peninsula with a pronounced sand ridge at its inland or northern edge and topography that gently slopes southward, into the marshes of the Ashley River. The central portion of the tract is somewhat lower than the area to either the north or south, creating a bowl-like depression in the center of the survey tract.

Dorchester County is situated in the Lower Coastal Plain of South Carolina. It is bounded to the north by Orangeburg County, on the east by Berkeley County, on the south by Charleston County, and is separated from Colleton County on the west by the Edisto River. The county is drained by the Edisto and Ashley Rivers, with the project area itself drained by Dorchester Creek, which empties into the Ashley River located south of the project area. Elevations in the county range from about 3 or 4 feet above sea level along parts of the Ashley River to about 120 feet above sea level near Reevesville (Eppinette 1990:1). Elevations in the project area range from about 6 to 18

Figure 1. Project vicinity in Dorchester County, South Carolina (basemap is USGS South Carolina 1:500,000).

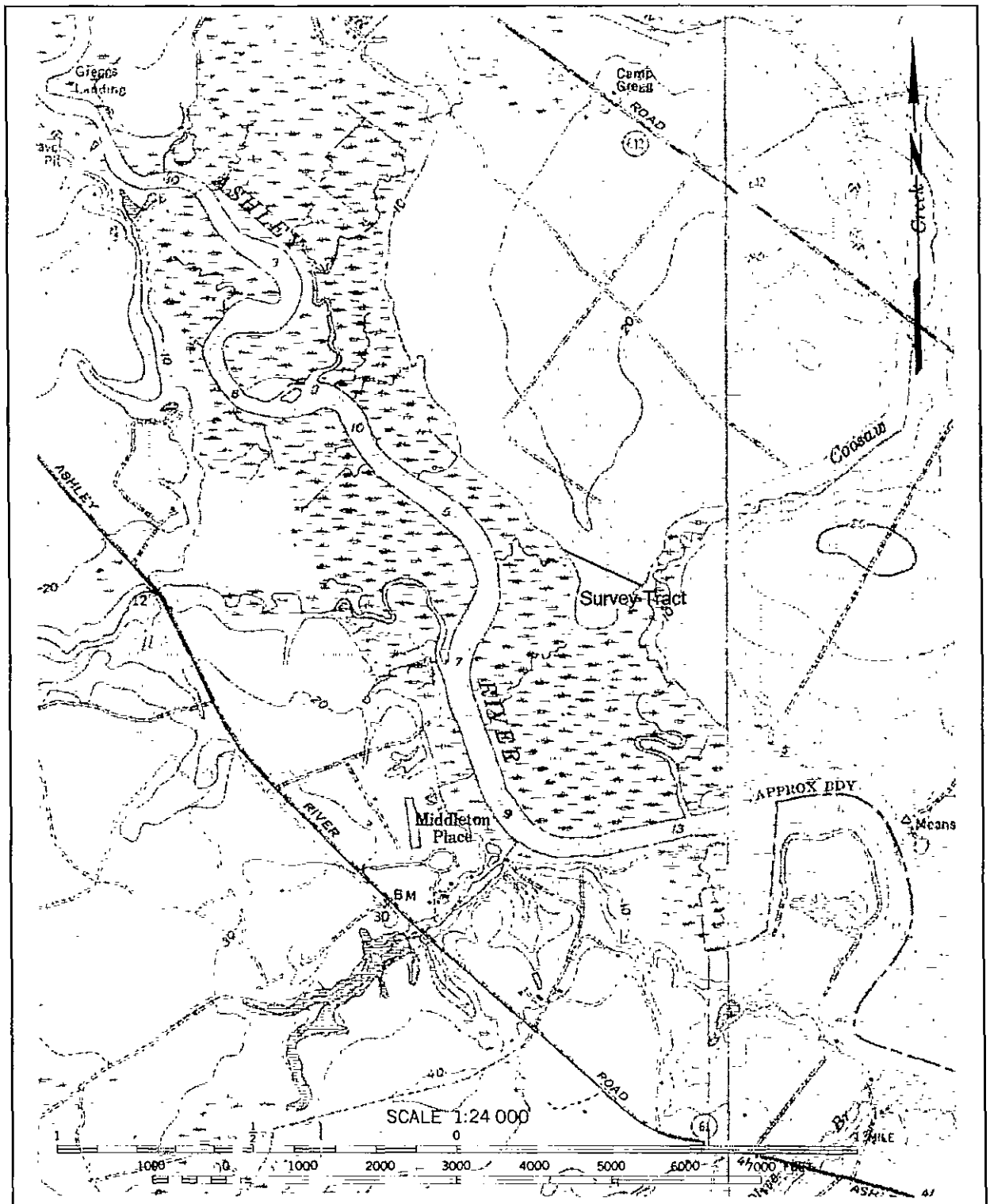


Figure 2. Project area showing the location of the survey tract (basemap is USGS Stallsville 1959PR79 and Ladson 1958PR79).

feet above mean sea level (AMSL).

This portion of the Lower Coastal Plain contains nearly level soils. In a few small areas, primarily along major rivers and swamps, the soils are gently sloping. Less than 1% of the county is flooded daily or occasionally by saline water. All of the soils in the county were deposited or formed during the Pleistocene epoch. During this period, the ocean moved over the area, perhaps several times. As the ocean retreated, it left formations and terraces which indicate former shorelines and soils of different ages. The terraces in Dorchester County, from the sea to the inland, include the Recent, Pamlico, Talbot, Penholoway, Wicomico, and Sunderland. The project area is located in the Pamlico Terrace which ranges from sea level up to 25 feet above sea level (Cooke 1936; Eppinette 1990:89).

Geology and Soils

The geology of the Lower Coastal Plain has been well described by Cooke (1936) who notes that from the Cape Fear River in North Carolina to Winyah Bay in South Carolina, the coast forms a "great arc scooped out by waves" (Cooke 1936:4). This area has been described by Brown (1975) as being an arcuate strand. In this area salt marshes are poorly developed or absent and few tidal inlets breach the coast (Smith 1933:20-21). This situation is the result of an erosional history about 100,000 years ago. In general, however, the geology of the Lower Coastal Plain is less complex than that of other sections of the state.

The area is dominated by fluvial deposits of unconsolidated sands and clays. Rocks are almost totally absent from the area, although Mills (1972 [1826]:584) does note that some compact shell limestone was found on the Waccamaw between Gaul's Ferry and Bear Bluff.

Soils were primarily formed during the Pleistocene epoch and several terraces were deposited (Dudley 1986:85). The project vicinity is characterized by the Mouzon-Brookman-Wahee Association. In general, these soils range from somewhat poorly drained to very poorly drained. They typically have a loamy surface layer over a loamy and clayey subsoil.

Only one soil series is found in the project area, the Mouzon fine sandy loam. This soil is found on broad, nearly level, low terraces, such as we encountered in the study area. The A horizon is generally a very dark grayish brown (10YR3/2) fine sand loam about 0.4 foot in depth, overlying an E horizon of light gray (10YR7/1) loamy fine sand to about 0.7 foot. Below this, to a depth of nearly 2.0 feet are gray (10YR5/1) sandy clay loams. These soils are occasionally flooded and have seasonal high water tables from the surface to a depth of about 1.0 foot.

Climate

John Lawson described South Carolina in 1700 as having, "a sweet Air, moderate Climate, and fertile Soil" (Lefler 1967:86). Of course, Lawson tended to romanticize Carolina. In December 1740 Robert Pringle remarked that Charleston was having "hard frosts & Snow" characterized as "a great Detriment to the Negroes" (Edgar 1972:282), while in May 1744 Pringle states, "the weather having already Come in very hott" (Edgar 1972:685) — revealing the extraordinary shifts that often made Carolina far less of a paradise than implied by Lawson.

The major climatic controls of the area are latitude, elevation, distance from the ocean, and location with respect to the average tracks of migratory cyclones. Dorchester's latitude of 32°55'N places it on the edge of the balmy subtropical climate typical of Florida, further south. As a result, there are relatively short, mild winters and long, warm, humid summers. The large amount of nearby warm ocean water surface produces a marine climate, which tends to moderate both the cold and hot weather. The Appalachian Mountains, about 220 miles to the northwest, block the shallow cold air masses from the northwest, moderating them before they reach the sea islands (Mathews et al. 1980:46).

The average high temperature in Charleston and Mount Pleasant in July is 79°F, although temperatures are frequently in the 90s during much of July (Kjerfve 1975:C-4). Mills noted:

> in the months of June, July, and August, 1752, the weather in

> Charleston was warmer than any of the inhabitants before had ever experienced. The mercury in the shade often rose above 90°, and for nearly twenty successive days varied between that an 101° (Mills 1972 [1826]:444).

The area normally experiences a high relative humidity, adding greatly to the discomfort. Kjerfve (1975:C-5) found an annual mean value of 73.5% RH, with the highest levels occurring during the summer. Pringle remarked in 1742 that guns "sufferr'd with the Rust by Lying so Long here, & which affects any Kind of Iron Ware, much more in this Climate than in Europe" (Edgar 1972:465).

The annual rainfall in this portion of Dorchester is about 50 inches, fairly evenly spaced over the year. While adequate for most crops, there may be periods of both excessive rain and drought. The nearby Charleston area has recorded up to 20 inches of rain in a single month and the rainfall over a three month period has exceeded 30 inches no less than 9 times in the past 37 years. Likewise, periods of drought can occur and cause considerable damage to crops and livestock. Mills remarks that the "Summer of 1728 was uncommonly hot; the face of the earth was completely parched; the pools of standing water dried up, and the field reduced to the greatest distress" (Mills 1972 [1826]:447-448). Another significant drought occurred in 1845, affecting both the Low and Up Country.

The annual growing season is 223 days, although early freezes in the fall and late frosts in the spring can reduce this period.

Floristics

The area of the study tract exhibits three major ecosystems: the maritime forest ecosystem which consists of the upland forest areas, the palustrine ecosystems which consist of essentially fresh water, non-tidal wetlands, and the salt-water dominated tidal marshes (Sandifer et al. 1980:7-9). All were important to the area's prehistoric and historic occupants.

The maritime forest ecosystem has been found to consist of five principal forest types, including the Oak-Pine forests, the Mixed Oak Hardwood forests, the Palmetto forests, the Oak thickets, and other miscellaneous wooded areas (such as salt marsh thickets and wax myrtle thickets).

Of these the Oak-Pine forests are most common, constituting large areas of the region's original forest community. In some areas palmetto becomes an important sub-dominant. Typically these forests are dominated by the laurel oak with pine (primarily loblolly with minor amounts of longleaf pine) as the major canopy co-dominant. Hickory is present, although uncommon. Other trees found are the sweet gum and magnolia, with sassafras, red bay, American holly, and wax myrtle and palmetto found in the understory.

Mills, in the early nineteenth century, remarked that:

> South Carolina is rich in native and exotic productions; the varieties of its soil, climate, and geological positions, afford plants of rare, valuable, and medicinal qualities; fruits of a luscious, refreshing, and nourishing nature; vines and shrubs of exquisite beauty, fragrance, and luxuriance, and forest trees of noble growth, in great variety (Mills 1972 [1826]:66).

The loblolly pine was called the "pitch or Frankincense Pine" and was used to produce tar and turpentine; the longleaf pine was "much used in building and for all other domestic purposes;" trees such as the red bay and red cedar were often used in furniture making and cedar was a favorite for posts; and live oaks were recognized as yielding "the best of timber for ship building;" (Mills 1972 [1826]:66-85). Mills also observed that:

> in former years cypress was much used in building, but the difficulty of obtaining it now, compared with the pine, occasions little of it to be cut for sale, except in the shape of shingles; the cypress is a most valuable wood for

> durability and lightness. Besides the two names we have cedar, poplar, beech, oak, and locust, which are or may be also used in building (Mills 1972 [1826]:460).

The "Oak and hickory high lands" according to Mills were, "well suited for corn and provisions, also for indigo and cotton" (Mills 1972 [1826]:443). The value of these lands in the mid-1820s was from $10 to $20 per acre, less expensive than the tidal swamp or inland swamp lands (where rice and, with drainage, cotton could be grown).

Figure 3. Marsh frontage at the south edge of the survey tract. Middleton Place to across the Ashley River in the background.

The freshwater palustrine ecosystem includes all wetland ecosystems, such as the swamps, bays, savannas, pocisins, and creeks where the salinities measure less than 0.5 ppt. These palustrine ecosystems tend to be diverse, although not well studied (Sandifer et al. 1980:295). Many of these freshwater areas are likely associated with the various troughs scattered across the area. A number of forest types may be found in the palustrine areas which would attract a variety of terrestrial mammals. The typical vegetation might consist of red maple, swamp tupelo, sweet gum, red bay, cypress, and various hollies. Also expected in these areas would be wading birds and reptiles. It seems likely that these freshwater environs were of particular importance to the prehistoric occupants, but posed only a passing hindrance to the historic plantation owners.

Along the southern edge of the property is situated the third environmental zone — the salt marsh and its border zonation (Figure 3). The upper marsh is dominated by marsh elder, sea myrtle or groundsel, and marshhay cordgrass. Slightly lower marsh areas are dominated by glasswort, smooth cordgrass, and sea oxeye. All of these communities are almost entirely dependent on the duration of flooding and the salinity of the water. While at first glance these marsh areas seem to offer little, they are actually full of biological diversity and provide a wealth of resources, including oysters and other shellfish, fish, wading and other marsh birds, as well as materials used for fertilizer.

The survey tract has experienced a very large degree of disturbance over its history. There is good evidence that this area was never intensively cultivated, but was left in woods for most of its colonial and antebellum history. In the postbellum, however, much of the area was aggressively mined for its phosphate rock, causing extensive disturbance to the native vegetation. Today evidence of this mining is still clearly visible in the survey tract, as well as large portions of Whitehall Plantation to the north. The vegetation of the tract is consistent with second growth, typically no older than about 70 years (Figures 4 and 5).

Figure 4. Hardwood forest and rolling topography at the northern edge of the survey tract, showing evidence of previous phosphate mining activity.

Prehistoric and Historic Synthesis

The Prehistoric

The Paleo-Indian period, lasting from 12,000 to 8,000 B.C., is evidenced by basally thinned, side-notched projectile points; fluted, lanceolate projectile points, side scrapers, end scrapers; and drills (Coe 1964; Michie 1977; Williams 1968). The Paleo-Indian occupation, while widespread, does not appear to have been intensive. Artifacts are most frequently found along major river drainages, which Michie interprets to support the concept of an economy "oriented towards the exploitation of now extinct mega-fauna" (Michie 1977:124).

Unfortunately, little is known about Paleo-Indian subsistence strategies, settlement systems, or social organization. Generally, archaeologists agree that the Paleo-Indian groups were at a band level of society (see Service 1966), were nomadic, and were both hunters and foragers. While population density, based on the isolated finds, is thought to have been low, Walthall suggests that toward the end of the period, "there was an increase in population density and in territoriality and that a number of new resource areas were beginning to be exploited" (Walthall 1980:30).

Figure 5. Mixed pine and hardwood forest with young understory in the center of the survey tract.

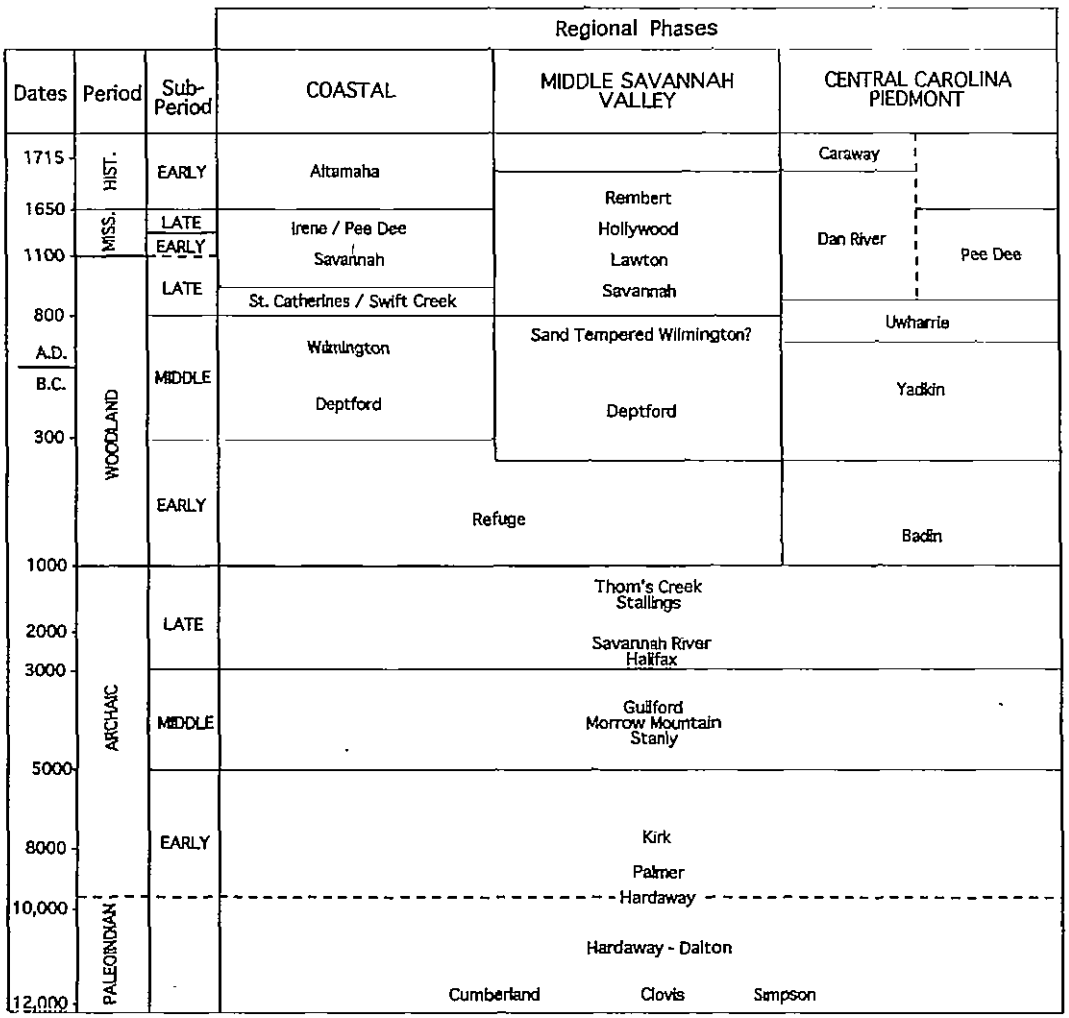


Figure 6. Cultural periods along the coast of South Carolina.

The Archaic period, which dates from 8000 to 2000 B.C., does not form a sharp break with the Paleo-Indian period, but is a slow transition characterized by a modern climate and an increase in the diversity of material culture. Associated with this is a reliance on a broad spectrum of small mammals, although the white tailed deer was likely the most commonly exploited mammal. The chronology established by Coe (1964) for the North Carolina Piedmont may be applied with little modification to the South Carolina coastal plain and piedmont. Archaic period assemblages, exemplified by corner-notched and broad-stem projectile points, are fairly common, perhaps because the swamps and drainages offered especially attractive ecotones.

In the Coastal Plain of the South Carolina there is an increase in the quantity of Early Archaic remains, probably associated with an increase in population and associated increase in the intensity of occupation. While Hardaway and Dalton points are typically found as isolated specimens along riverine environments, remains from the following Palmer phase are not only more common, but are also found in both riverine and interriverine settings. Kirks are likewise common in the coastal plain (Goodyear et al. 1979).

The two primary Middle Archaic phases found in the coastal plain are the Morrow Mountain and Guilford (the Stanly and Halifax complexes identified by Coe are rarely encountered). Our best information on the Middle Woodland comes from sites investigated west of the Appalachian Mountains, such as the work in the Little Tennessee River Valley. The work at Middle Archaic river valley sites, with their evidence of a diverse floral and faunal subsistence base, seems to stand in stark contrast to Caldwell's Middle Archaic "Old Quartz Industry" of Georgia and South Carolina, where axes, choppers, and ground and polished stone tools are very rare.

The Late Archaic is characterized by the appearance of large, square stemmed Savannah River projectile points (Coe 1964). These people continued the intensive exploitation of the uplands much like earlier Archaic groups. The bulk of our data for this period, however, comes from work in the Uwharrie region of North Carolina.

The Woodland period begins by definition with the introduction of fired clay pottery about 2000 B.C. along the South Carolina coast (the introduction of pottery, and hence the beginning of the Woodland period, occurs much later in the Piedmont of South Carolina). It should be noted that many researchers call the period from about 2500 to 1000 B.C. the Late Archaic because of a perceived continuation of the Archaic lifestyle in spite of the manufacture of pottery. Regardless of terminology, the period from 2500 to 1000 B.C. is well documented on the South Carolina coast and is characterized by Stallings (fiber-tempered) pottery (see Figure 6 for a synopsis of Woodland phases and pottery designations). The subsistence economy during this early period was based primarily on deer hunting and fishing, with supplemental inclusions of small mammals, birds, reptiles, and shellfish.

Like the Stallings settlement pattern, Thom's Creek sites are found in a variety of environmental zones and take on several forms. Thom's Creek sites are found throughout the South Carolina Coastal Zone, Coastal Plain, and up to the Fall Line. The sites are found into the North Carolina Coastal Plain, but do not appear to extend southward into Georgia.

In the Coastal Plain drainage of the Savannah River there is a change of settlement, and probably subsistence, away from the riverine focus found in the Stallings Phase (Hanson 1982:13; Stoltman 1974:235-236). Thom's Creek sites are more commonly found in the upland areas and lack evidence of intensive shellfish collection. In the Coastal Zone large, irregular shell middens, small, sparse shell middens; and large "shell rings" are found in the Thom's Creek settlement system.

The Deptford phase, which dates from 1100 B.C. to A.D. 600, is best characterized by fine to coarse sandy paste pottery with a check stamped surface treatment. The Deptford settlement pattern involves both coastal and inland sites.

Inland, sites such as 38AK228-W, 38LX5, 38RD60, and 38BM40 indicate the presence of an extensive Deptford occupation on the Fall Line and the Coastal Plain, although sandy, acidic soils preclude statements on the subsistence base (Anderson 1979;

Ryan 1972; Trinkley 1980b). These interior or upland Deptford sites, however, are strongly associated with the swamp terrace edge, and this environment is productive not only in nut masts, but also in large mammals such as deer. Perhaps the best data concerning Deptford "base camps" comes from the Lewis-West site (38AK228-W), where evidence of abundant food remains, storage pit features, elaborate material culture, mortuary behavior, and craft specialization has been reported (Sassaman et al. 1990:96-98).

Throughout much of the Coastal Zone and Coastal Plain north of Charleston, a somewhat different cultural manifestation is observed, related to the "Northern Tradition" (e.g., Caldwell 1958). This recently identified assemblage has been termed Deep Creek and was first identified from northern North Carolina sites (Phelps 1983). The Deep Creek assemblage is characterized by pottery with medium to coarse sand inclusions and surface treatments of cord marking, fabric impressing, simple stamping, and net impressing. Much of this material has been previously designated as the Middle Woodland "Cape Fear" pottery originally typed by South (1976). The Deep Creek wares date from about 1000 B.C. to A.D. 1 in North Carolina, but may date later in South Carolina. The Deep Creek settlement and subsistence systems are poorly known, but appear to be very similar to those identified with the Deptford phase.

The Deep Creek assemblage strongly resembles Deptford both typologically and temporally. It appears this northern tradition of cord and fabric impressions was introduced and gradually accepted by indigenous South Carolina populations. During this time some groups continued making only the older carved paddle-stamped pottery, while others mixed the two styles, and still others (and later all) made exclusively cord and fabric stamped wares.

The Middle Woodland in South Carolina is characterized by a pattern of settlement mobility and short-term occupation. On the southern coast it is associated with the Wilmington phase, while on the northern coast it is recognized by the presence of Hanover, McClellanville or Santee, and Mount Pleasant assemblages. The best data concerning Middle Woodland Coastal Zone assemblages comes from Phelps' (1983:32-33) work in North Carolina. Associated items include a small variety of the Roanoke Large Triangular points (Coe 1964:110-111), sandstone abraders, shell pendants, polished stone gorgets, celts, and woven marsh mats. Significantly, both primary inhumations and cremations are found.

On the Coastal Plain of South Carolina, researchers are finding evidence of a Middle Woodland Yadkin assemblage, best known from Coe's work at the Doerschuk site in North Carolina (Coe 1964:25-26). Yadkin pottery is characterized by a crushed quartz temper and cord marked, fabric impressed, and linear check stamped surface treatments. The Yadkin ceramics are associated with medium-sized triangular points, although Oliver (1981) suggests that a continuation of the Piedmont Stemmed Tradition to at least A.D. 300 coexisted with this Triangular Tradition. The Yadkin series in South Carolina was first observed by Ward (1978, 1983) from the White's Creek drainage in Marlboro County, South Carolina. Since then, a large Yadkin village has been identified by DePratter at the Dunlap site (38DA66) in Darlington County, South Carolina (Chester DePratter, personal communication 1985) and Blanton et al. (1986) have excavated a small Yadkin site (38SU83) in Sumter County, South Carolina. Research at 38FL249 on the Roche Carolina tract in northern Florence County revealed an assemblage including Badin, Yadkin, and Wilmington wares (Trinkley et al. 1993:85-102). Anderson et al. (1982:299-302) offer additional typological assessments of the Yadkin wares in South Carolina.

Over the years the suggestion that Cape Fear might be replaced by such types as Deep Creek and Mount Pleasant has raised considerable controversy. Taylor, for example, rejects the use of the North Carolina types in favor of those developed by Anderson et al. (1982) from their work at Mattassee Lake in Berkeley County (Taylor 1984:80). Cable (1991) is even less generous in his denouncement of ceramic constructs developed nearly a decade ago, also favoring adoption of the Mattassee Lake typology and chronology. This construct, recognizing five phases (Deptford I - III, McClellanville, and Santee I), uses a type variety system.

Regardless of terminology, these Middle

Woodland Coastal Plain and Coastal Zone phases continue the Early Woodland Deptford pattern of mobility. While sites are found all along the coast and inland to the Fall Line, shell midden sites evidence sparse shell and artifacts. Gone are the abundant shell tools, worked bone items, and clay balls. Recent investigations at Coastal Zone sites such as 38BU747 and 38BU1214, however, have provided some evidence of worked bone and shell items at Deptford phase middens (see Trinkley 1990).

In many respects the South Carolina Late Woodland may be characterized as a continuation of previous Middle Woodland cultural assemblages. While outside the Carolinas there were major cultural changes, such as the continued development and elaboration of agriculture, the Carolina groups settled into a lifeway not appreciably different from that observed for the previous 500 to 700 years (cf. Sassaman et al. 1990:14-15). This situation would remain unchanged until the development of the South Appalachian Mississippian complex (see Ferguson 1971).

The South Appalachian Mississippian Period (ca. A.D. 1100 to 1640) is the most elaborate level of culture attained by the native inhabitants and is followed by cultural disintegration brought about largely by European disease. The period is characterized by complicated stamped pottery, complex social organization, agriculture, and the construction of temple mounds and ceremonial centers. The earliest phases include the Savannah and Pee Dee (A.D. 1200 to 1550).

Historic Overview

The English established the first permanent settlement in what is today South Carolina in 1670 on the west bank of the Ashley River. Like other European powers, the English were lured to the New World for reasons other than the acquisition of land and promotion of agriculture. The Lord Proprietors, who owned the colony until 1719-1720, intended to discover a staple crop whose marketing would provide great wealth through the mercantile system.

By 1680 the settlers of Albemarle Point had moved their village across the bay to the tip of the peninsula formed by the Ashley and Cooper rivers. This new settlement at Oyster Point would become modern-day Charleston. The move provided not only a more healthful climate and an area of better defense, but:

> [t]he situation of this Town is so convenient for public Commerce that it rather seems to be the design of some skillful Artist than the accidental position of nature (Mathews 1954:153).

While the Indian trade was profitable to many of the Carolina colonists, it did not provide the proprietors with the wealth they were expecting from the new colony. Early agricultural experiments which involved olives, grapes, silkworms, and oranges were less than successful. Consequently, the cultivation of cotton, rice, tobacco, and flax were stressed as these were staple crops whose marketing the proprietors could easily monopolize.

In 1696, further up the Ashley River, a grant of 1,800 acres on a peninsula of high land located between the Ashley River and the Boo-shoo-ee Creek (now Dorchester Creek, and also referred to as Boshoo or Boshoe Creek) was obtained by Massachusetts Congregationalists, and the town of Dorchester was established (Carrillo 1973:5). Dorchester, located at the navigable head of the Ashley River became a center for trade and the distribution of goods (Walker 1941:50). Trade between local farmers, artisans, and merchants, and a lucrative deerskin trade comprised Dorchester's economy (Beck 1998:2). Naval stores, such as tar, pitch, and lumber were also exported from Dorchester.

The Congregationalist church obtained 2,250 additional acres between 1699 and 1700, making the total acreage associated with the Congregationalist Church 4,050 acres (Smith 1905:70-72). Diaries belonging to elders of the church show that not all original occupants of the Dorchester settlement were associated with the Congregationalists, with "others that were concerned" also drawing lots for land divisions in the settlement along with church members (Smith 1905:72). Land was set aside in Dorchester for a "place of trade," a public square and streets, and a

"commons" (Smith 1905:72-73). The space where the creek enters the river was also set aside for public use, and an additional 123 acres north of the town along Boshoe Creek was set aside for mill purposes.

Construction of a permanent brick church, called the "White Meeting House" was begun sometime after 1700. During this time, the town began to grow and soon a number of merchants had established themselves in Dorchester town (Smith 1905:79). New settlers to Dorchester received grants higher up and across the Ashley River. In 1706, the Act for the establishment of the Church of England in the Province was passed, resulting in the creation of six parishes, including St. Andrew's Parish, to which Dorchester belonged. By 1708, the town contained about 350 people.

In 1719, St. Andrew's Parish was divided and Dorchester became part of the St. George Parish, with 115 English families, including 500 persons and 1,300 slaves, living in the town (Smith 1905:80). Estate inventories show that both Anglicans and dissenters in Dorchester owned slaves (Beck 1998:2). According to an advertisement in the *South Carolina Gazette*, more than 300 African slaves from Angola were brought to Dorchester to be sold in order to avoid a smallpox epidemic in Charleston (Beck 1998:2).

Rice soon became more profitable than earlier crops in Dorchester, increasing the wealth of planters (Beck 1998:3), and encouraging the large scale introduction of slavery. Although introduced at least by the 1690s, rice did not become a significant staple crop until the early eighteenth century. At that time it not only provided the proprietors with an economic base the mercantile system required, but it was also to form the basis of South Carolina's plantation system (Carpenter 1973). The majority of the slaves owned in Dorchester were concentrated in the surrounding plantations, with fewer slaves owned by merchants and artisans in the township (Beck 1998:3). Many plantations sprung up along the Ashley River, including Middleton Place, Archdale, Chatsworth, Spring Farm and Cedar Grove (Walker 1941:23).

In 1719, a Statute for constructing a Church of England was enacted, and 150 acres were purchased for the church grounds. By 1734, the church repairs and the construction of a parsonage house were undertaken. The town's growth also enabled the construction of roads into the surrounding country and bridges over the Ashley River. Other Acts, in 1723 and 1734, were passed for establishing a fair and markets, and founding a free school. However, the school and housing for the school's master were not constructed until 1758.

Between 1752 and 1756, overcrowding within Dorchester and concerns over the unhealthiness of the area led the Congregationalists to move to Georgia, without a marked decrease to Dorchester's importance as a locus of trade and distribution. The exodus of the entire congregation however, meant that the "White Meeting House" church was no longer used for church services, and sat vacant until later in the century (Smith 1905:92).

During this time, Dorchester was also affected, though not directly, by the increased hostilities in the country associated with the French and Indian Wars. Preparations took place in the state to develop fortifications and additions to existing coastal defense works at Port Royal, Winyaw, Fort Johnson, and Dorchester (Carrillo 1973:7). A magazine and wall at Dorchester began construction in the late 1750's, with construction ceased after 1760 most likely due to the decline of anxiety and tension in this area. The tabby fort built to assuage fears of attacks from Native Americans is still standing at the Old Dorchester State Historic Site on the high bank of the Ashley River (Beck 1998:1). The fort was constructed on the north side of the Ashley river in an area that comprised the extreme southern portion of the town of Dorchester. Carrillo (1973:13) describes the tabby fort as a "flanked redoubt" which "resembles a pin wheel having four straight or slightly angling sides" (Carrillo 1973:13).

South Carolina's economic development during the pre-Revolutionary War period involved a complex web of interactions between slaves, planters, and merchants. By 1710 slaves outnumbered free people in South Carolina and by the 1730s slaves were beginning to be concentrated on a few, large slave-holding plantations. By the close of the eighteenth century some South Carolina plantations had a ratio of

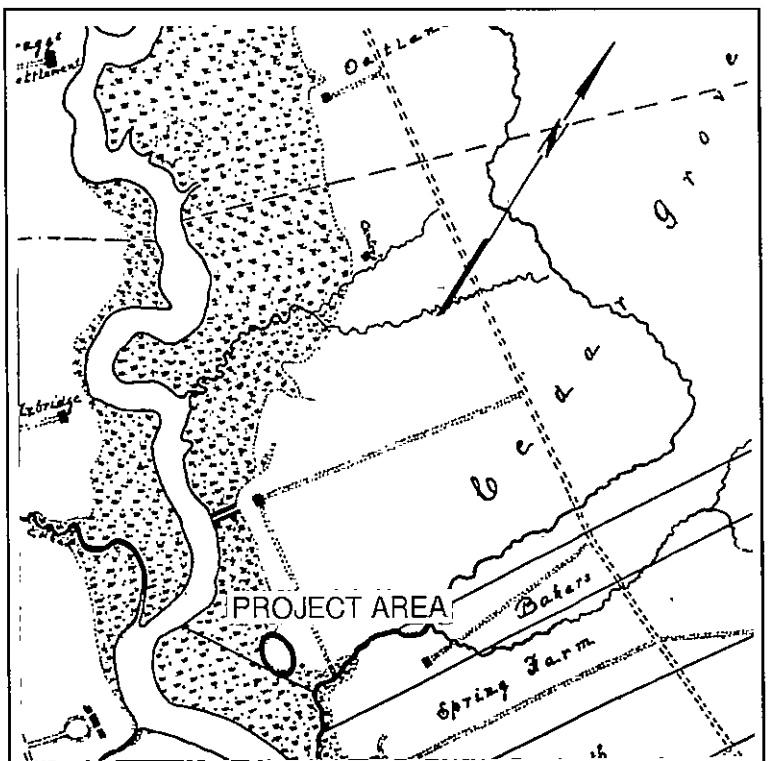


Figure 7. Portion of H.A.M. Smith's "Plan of Settlements on the Ashley River" showing the project area.

slaves to whites that was 27:1 (Morgan 1977).

With the onset of the Revolutionary War, Dorchester was named as a possible armed post and by December 9, 1775, the Council of Safety of the Second Provincial Congress issued an order for manning the post with troops and militia (Carrillo 1973:10). A map for the Ashley Barony ca. 1780 (Smith 1988) shows the project area within Cedar Grove Plantation (Figure 7). The plantation complex is illustrated, as is a single structure in the general project area, although we believe that it probably laid to the north of our tract.

With American forces defending Charleston, Dorchester was occupied twice by the British in 1780 and 1781. Dorchester was sacked and burned on December 1, 1781 when the British learned of an impending attack and retreated to Charleston (Carrillo 1973:10). Charleston itself was occupied by the British for over 2½ years between 1780 and 1782.

After the Revolution, loss of royal bounties on rice, indigo, and naval stores caused considerable economic chaos with the eventual "restructuring of the state's agricultural and commercial base" (Brockington et al. 1985:34). One means of "restructuring" was the emergence of cotton as the principal cash crop. Although "upland" cotton was available as early as 1733, its ascendancy was ensured by the industrial revolution, the invention of the cotton gin in 1794, and the availability of slave labor. While "Sea Island" cotton was already being efficiently cleaned, the spread of cotton was primarily in the South Carolina interior. Consequently, Charleston benefitted primarily through its role as a commercial center.

Within five years of the Revolutionary War, Dorchester decayed rapidly (Smith 1905:86). According to Smith, this decline was due to several factors including the growth of the middle and upper country and the extension of the frontier, the development increased use of roads, the town's unsuitability for summer resorts for nearby planters, the planters' reliance on Charles Town for business needs rather than Dorchester, and the infertile land surrounding Dorchester (Smith 1905:85). The demise of Dorchester was facilitated by the growth of the town of Summerville by planters from the area who built houses and summer settlements there.

By 1832, Summerville had grown to the extent that the area was referred to as an "Old Summerville" and a "New Summerville" when the SC Canal and Railroad Company began building a railroad line (Walker 1941:78). Growth continued in the general area, prompting the creation of new counties. In 1800, Colleton County was formed from parts of Charleston County. *Mills' Atlas* from 1825 places the project area in Colleton County (Figure 8). This map shows both Cedar Grove and Middleton Place, but does not show any structures in the immediate project area .

Cotton provided about 20 years of economic

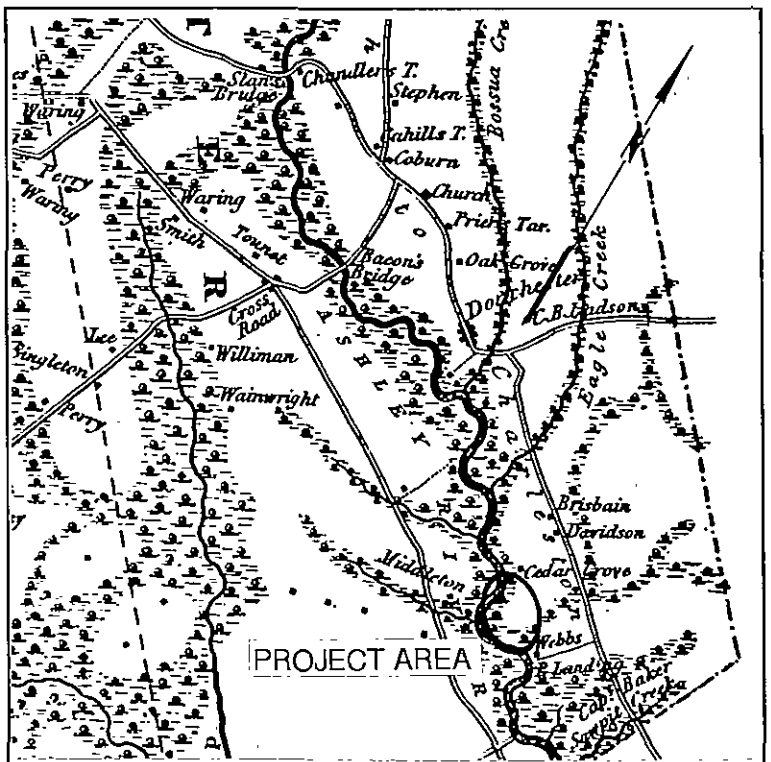


Figure 8. Portion of Mill's Atlas for Colleton District showing the project area.

success for South Carolina. During this period South Carolina monopolized cotton production with a number of planters growing wealthy (Mason 1976). The price of cotton fell in 1819 and remained low through the 1820s, primarily because of competition from planters in Alabama and Mississippi. Friedlander, in Wheaton et al. (1983:28-29) notes that cotton production in the inland coastal parishes fell by 25% in the years from 1821 to 1839, although national production increased by 123%. Production improved dramatically in the 1840s in spite of depressed prices and in the 1850s the price of cotton rose.

By the mid-nineteenth century most of the plantations along the Ashley River had fallen into disrepair. Edmund Ruffin described the scene in 1843:

> . . . the river banks offer many beautiful sites for residences, which were preferred as such by the early settlers, & for a long time the Ashley River plantations were the most highly appreciated and productive lands in the colony. Now these lands are almost left untilled, are rarely inhabited by the proprietors . . . & the whole presents a melancholy scene of abandonment, desolation & ruin. . . . But little rice is made, & only by a few persons. One occupant only on the left bank cultivates cotton for sale. . . . The principal business now pursued is cutting wood to sell in Charleston (Mathew 1992:78).

After years of cultivation without benefit of fertilizers, the Ashley River lands were largely unfit for cultivation and had been abandoned to timber.

The situation did not change for the better after the Civil War. The land was still exhausted and offered little chance of a productive return, and in addition agricultural labor was in short supply and was often "unreliable" according to former plantation owners. Gradually there was a shift to a new extractive industry — phosphate mining.

Phosphate rock in South Carolina was recognized by chemists and geologists at least as early as 1797, although its economic importance was ignored, blunted prior to the Civil War, as one observer explained, by "a state of agricultural prosperity" (Guerard 1884:1). In fact, it was only when the economy of the low country lay in ruins that phosphate was explored. As Shick and Doyle argue, phosphate mining allowed, "the upper class of planters and factors in the Charleston area . . . to shore up a . . . replica of the social order that they had defended in the late war" (Shick and Doyle 1985:31). Just as to the point, they argue:

> in the grand mansions of the city the upper class of old families continued to hold sway despite some disturbing signs of genteel poverty in flaking

> paint and pawned silver. The older leaders of this "ancient city" developed a fiercely conservation resistance to things new and came to see the lack of growth as a blessing that allowed them to preserve a special heritage with its roots in the old order of antebellum times (Shick and Doyle 1985:30).

Phosphate allowed economic activity, but without any real growth. It allowed the blacks to be engaged in productive activity, but without allowing any real freedom. And, like rice and cotton before it, phosphate was predestined to destroy the land and result in eventual economic collapse.

Phosphate, used as fertilizer, was found as deposits in beds or strata of rough nodules "from part of an inch to several feet in diameter," often associated with fossil bones. The strata were typically 6 to 20 inches in depth and were found up to 8 feet below the modern ground surface. The nodules were also found in creeks and, according to Guerard, "on the low lands which form a belt of country running parallel to the Atlantic and from 10 to 50 miles from the seaboard (Guerard 1884:4).

In the post-war rush to find some new system to bolster the economy and put blacks back to work, none of the problems potentially associated with phosphates were considered significant. A number of phosphate companies were organized to excavate the rock. The first company organized, in 1867, was the Charleston, S.C. Mining and Manufacturing Company, formed with $1 million in northern capital (when South Carolinians were unwilling to back the venture). Local Carolina companies, however, were quick to follow (Lewis and Hardesty 1979:19).

The phosphate industry in South Carolina eventually fell victim to forces much larger, and more powerful, than imagined by the investors — resembling the events associated with cotton and rice. The rapid decline in South Carolina was largely the result of new strikes in Florida during the 1880s, strikes in the 1890s in middle Tennessee, and eventually the discovery of deposits in Algiers. At the same time, internal problems such as political conflict (including exceptionally unsuccessful efforts by South Carolina to regulate the industry), natural disasters, and the decisive role of the northern capitalists, all contributed to the fall of the phosphate industry. Land mining of phosphate rock continued into the 1920s, but at a declining scale. Not even mergers such as the Virginia-Carolina Company's purchase of the S.C. Mining and Manufacturing Company with its infusion of $48 million in capital was able to keep the industry viable in South Carolina.

Land phosphates were mined in a process not dissimilar to strip mining seen today. One account explains that once,

> a field is selected [it is] drained by means of trenches, technically known as "line pits," dug around the tract and reaching below the level of the rock bed, this field is about 600 yards wide, and made as long as possible for transportation of the dug rock. A tram road for horses, or steam, is constructed through the midst of the field in its length, and then, commencing at the "line pits" and working toward the tram, pits measuring 6 by 12 feet, are sunk in long parallel lines. The superincumbant earth is thrown up with shovels behind the men, and the phosphate rock dug out with picks and coast on the untouched ground on front. When trees are in the field they are undermined and thrown over on the side which has already been excavated. The rock is rolled from the pits in barrows and dumped on platforms on the roadside, whence it is loaded into cars for transport to the washers (Guerard 1884:6).

Consistent in all the descriptions is the incredible amount of destruction caused by the mining process. H.A.M. Smith's discussions of the Cripps Plantation, some 5 miles south of Middleton Place, may offer some additional insight:

> when the writer in 1885 visited the site of his residence the house had been destroyed. It was on a spot of considerable natural beauty with a grove fine live oaks, and ground laid out and planted with groups of Indian Azalea which were then in full bloom. The property was then owned by the Rose phosphate mining company and unfortunately the line of mine excavation lay directly across the old garden and the site of the old house which were then on the point of total destruction by the mining operations (Smith 1988:166)

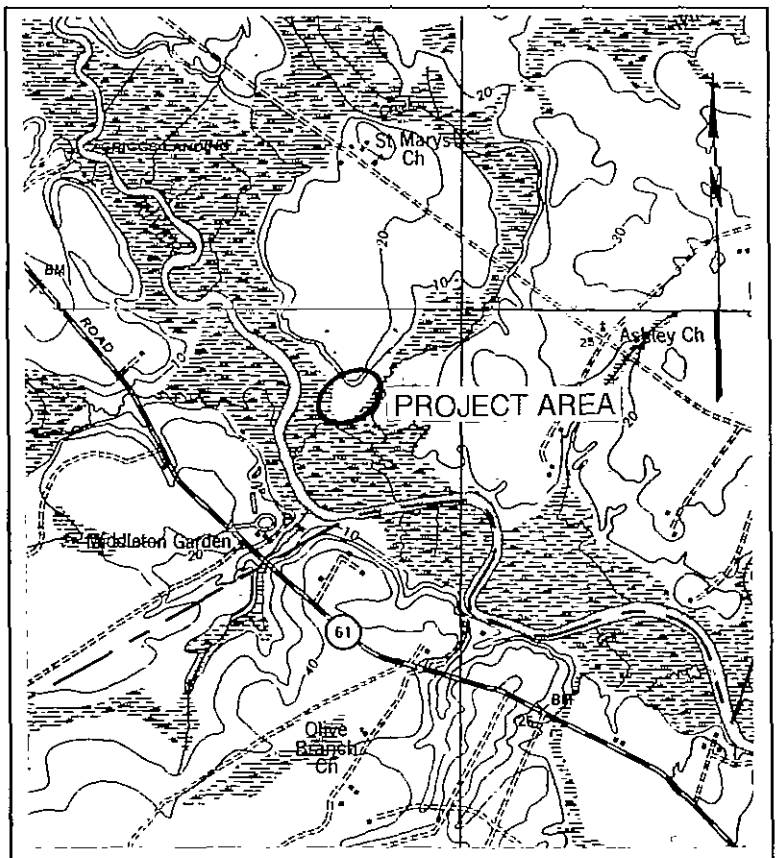


Figure 9. Portion of the 1920 Ravenels 15' topographic map showing the project area.

An 1897 report by the Charleston, S.C. Mining and Manufacturing Company details their specific operations. It reveals an "average overburden of some five feet" on their Ashley River properties, with a phosphate rock strata "from twelve to fifteen inches in thickness." The study also reports some attempts to use steam dredges to remove the overburden, "in that part of the fields where the overburden is deepest" (Report of the Visiting Committee of the Board of Directors of the Charleston, S.C. Mining and Manufacturing Company, South Carolina Historical Society, 30/13/47).

The exact extent of phosphate mining in the study area has not been documented, but the rolling topography, remnant ditches, as well as the presence of phosphate nodules in shovel tests, suggests that the area was mined. By the twentieth century, however, the project area appears deserted. Neither the 1920 Ravenels 15' topographic map (Figure 9) nor the 1939 General Highway and Transportation Map for Dorchester County (Figure 10) show any activity in the immediate area.

Cedar Grove Plantation

A historical synthesis of Cedar Grove is provided by Bailey et al. (1999:11-21). The property was granted as early as 1684, although it may not have been occupied until the early seventeenth century, when it was acquired through marriage by Walter Izard. Smith (1988) believes that it was during Izard's ownership that the large mansion house for the plantation was constructed.

The plantation passed through several generations of the Izard family until 1780, when it passed to a sister-in-law, Mary, who eventually married Arthur Middleton, owner of Middleton Place on the opposite bank of the Ashley River. Mary Middleton

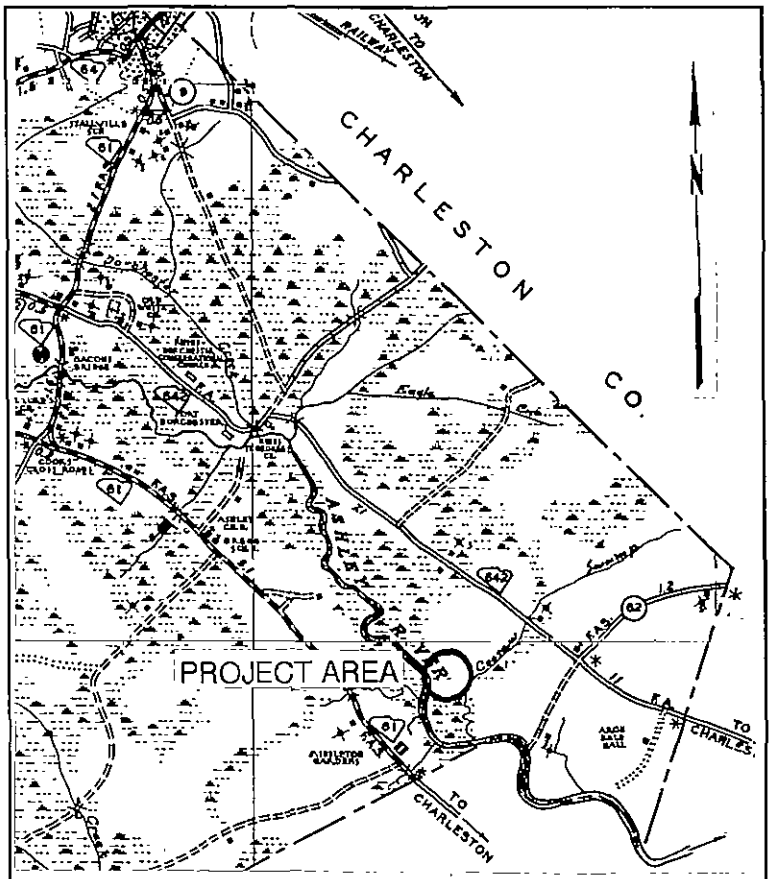


Figure 10. Portion of the 1939 General Highway and Transportation Map for Dorchester County showing the project area.

divided the tract, transferring about 1,495 acres to her youngest son, John Izard Middleton in 1813. He kept the property for seven years, selling it to John Parker, Jr. in 1820. From Parker the tract was conveyed to the Peppers, who apparently began timbering sections of the plantation, and from them to Dr. Isaac Marion Dwight, who found the plantation in disrepair. The Dwights spent the next 20 years working to restore the glory of Cedar Grove and apparently housed over 60 slaves on the tract. When Ruffin visited the plantation in 1843 he observed:

> The mansion is large, built in the old style & in excellent manner peculiar to the past times. It was one of the highly improved seats (as to buildings & grounds around,) & though the ancient splendor of artificial decoration is more or less abated, still the place is in good repair for use & such as is now found in few estates on this river (Mathew 1992:93-94).

The property was sold by the Dwights to William C. Vardell and his wife in 1858, who apparently sought to make it their "country seat." The house, however, was destroyed at some point in the Civil War. Nevertheless, the Vardell's held the tract and, after the Civil War, he became a hauler of phosphate, almost certainly from Cedar Grove's property. The history of the plantation from the 1890s through the early 1930s is largely unknown, but it had been acquired by the Boy Scouts by 1934 and they held it, as Camp Greg, until the early 1970s.

Previous Studies

Dorchester County has received rather spotty archaeological attention, although excavations have recently taken place in the old town of Dorchester, now the Old Dorchester State Historic Site. Derting and his colleagues, for example, list 49 reports associated with the county, with 18 of these (or 38%) representing highway or sewer surveys (Derting et al. 1991).

As noted previously, site files at the South Carolina Institute of Anthropology and Archaeology were checked to determine if any sites had been previously recorded for the project area. No sites had been previously recorded for the immediate project area, although a number of sites have been identified from surrounding areas, especially the previous Whitehall Plantation survey (Bailey et al. 1999).

Dr. Tracy Power was also contacted regarding the presence of any National Register Historic properties in the immediate project area and surrounding area. The study property lies within the Ashley River Special Area Management Plan, the Ashley River Historic District, and the Middleton Place

National Historic Landmark Geographical Area of Particular Concern view-shed.

The Ashley River Historic District was created in 1994. The southwest boundary of the district is formed by Ashley Ferry Road and the northeast boundary follows the marsh line of the Ashley River. The southeast boundary is formed by the Seaboard Coast Line railroad bridge just west Ashley Ferry, and the northwestern boundary is formed by Old Dorchester State Park.

The Middleton Place National Historic Landmark Geographical Area of Particular Concern view-shed is roughly triangular in form. The western boundary runs along SC 61. The northern boundary is a line which runs east from SC 61 just north of the unnamed creek north Middleton Place, crossing the Ashley River and terminating at Coosaw Creek. The eastern boundary, which forms the third leg of the triangle, runs roughly north-south from S.C. 61 crossing the Ashley River and following Coosaw Creek.

METHODS AND RESULTS

Background Investigations

Prior to conducting this investigation we contacted the State Historic Preservation Office for any information on National Register buildings, districts, structures, sites, or objects in the study area, as well as the results of any structure surveys which may have been completed in the project areas (fax to Dr. Tracy Power, dated November 24, 1999). He reported that the project was contained within the Ashley River Special Area Management Plan, the Ashley River Historic District, and the Middleton Place National Historic Landmark Geographical Area of Particular Concern view-shed.

We also contacted the S.C. Institute for Archaeology and Anthropology for information concerning any previously recorded archaeological sites in the immediate survey area. As previously discussed, there are a number of sites in the general area, but none on or immediately adjacent to the survey tract.

Field Methods

The initially proposed field techniques involved the placement of shovel tests at 100 foot intervals along transects spaced at 100 foot intervals. In areas of standing water or wetlands no shovel tests would be excavated.

All soil would be screened through ¼ inch mesh, with each test numbered sequentially along numbered transects. Each test would measure about 1 foot square and would normally be taken to a depth of at least 1.0 feet. All cultural remains would be collected, except for shell, mortar, and brick, which would be quantitatively noted in the field and discarded. Notes would be maintained for profiles at any sites encountered.

Should sites (defined by the presence of two or more artifacts from either surface survey or shovel tests within a 25 feet area) be identified by shovel testing, further tests would be used to obtain data on site boundaries, artifact quantity and diversity, site integrity, and temporal affiliation. These tests would be placed at 25 feet intervals in a simple cruciform pattern until negative shovel tests were encountered. The information required for completion of South Carolina Institute of Archaeology and Anthropology site forms would be

Figure 11. Dense understory vegetation in the survey area with cut survey line.

collected and photographs would be taken, if warranted in the opinion of the field investigators.

This strategy was implemented with no significant modifications. The tract was thickly overgrown, primarily with an understory of vines and herbaceous vegetation, which allowed no ground surface visibility. Fortunately, the parcel had recently had a topographic survey made and there were still open survey cut lines spaces 100 feet apart. These cut lines, oriented almost due north-south, were integrated into our survey and allowed access into otherwise thick parts of the tract (Figure 11).

A series of 13 transects were laid running from the northern edge of the tract southward, in each case terminating at the marsh edge. A total of 92 shovel tests were excavated on these transects..

All areas of the property were investigated except for several of the more pronounced side slopes adjacent to the marsh.

Site Evaluation

Identified sites would be evaluated for further work based on the eligibility criteria for the National Register of Historic Places. Chicora Foundation only provides an opinion of National Register eligibility and the final determination is made by the lead federal agency (perhaps OCRM) in consultation with the State Historic Preservation Officer at the South Carolina Department of Archives and History.

The criteria for eligibility to the National Register of Historic Places is described by 36CFR60.4, which states:

> the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and
>
> a. that are associated with events that have made a significant contribution to the broad patterns of our history; or
>
> b. that are associated with the lives of persons significant in our past; or
>
> c. that embody the distinctive characteristics of a type, period, or method of construction or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction; or
>
> d. that have yielded, or may be likely to yield, information important in prehistory or history.

National Register Bulletin 36 (Townsend et al. 1993) provides an evaluative process that contains five steps for forming a clearly defined explicit rationale for either the site's eligibility or lack of eligibility. Briefly, these steps are:

- identification of the site's data sets or categories of archaeological information such as ceramics, lithics, subsistence remains, architectural remains, or sub-surface features;
- identification of the historic context applicable to the site, providing a framework for the evaluative process;
- identification of the important research questions the site might be able to address, given the data sets and the context;
- evaluation of the site's archaeological integrity to ensure that the data sets were sufficiently

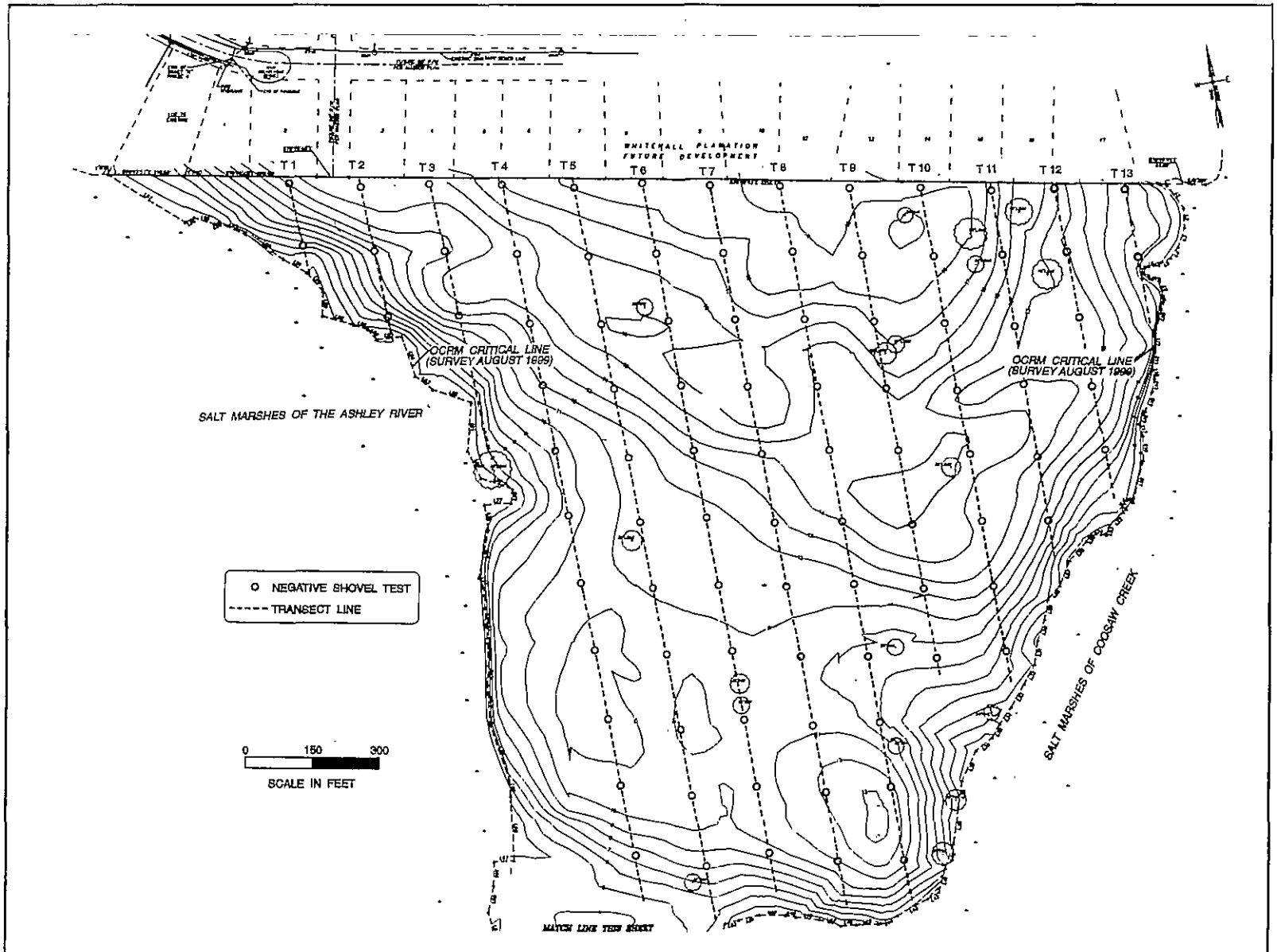


Figure 12. Map of the survey tract, showing approximate location of transects and shovel tests.

well preserved to address the research questions; and

- identification of important research questions among all of those which might be asked and answered at the site.

This approach, of course, has been developed for use documenting eligibility of sites being actually nominated to the National Register of Historic Places where the evaluative process must stand alone, with relatively little reference to other documentation and where typically only one site is being considered.

Survey Results

The archaeological investigation failed to identify any cultural remains during the shovel testing. Although surface visibility throughout the tract was low, we also failed to notice any materials on the adjacent dirt access road, or in the few areas where there were tree throws. The marsh edge was also subjected to a pedestrian survey, to determine whether there were any areas where shell midden might be eroding out or exposed in the marsh — none were observed.

The shovel tests on the tract typically revealed profiles consistent with the Mouzon soils. There were, however a few areas where the soil profiles were mixed with levels indistinct. These tended to occur in areas which also exhibited a rolling topography or ditching. It is these areas, we believe, that document phosphate mining.

SUMMARY AND RECOMMENDATIONS

This study involved the examination of a 26.5 acre tract situated at the southern edge of the Whitehall development tract on the east side of the Ashley River in Dorchester County, South Carolina. The tract is proposed for subdivision and eventual development. The study was conducted in compliance with state and federal laws and regulations concerning the management of cultural resources potentially affected by development activities in the Coastal Zone of South Carolina. Previous investigations revealed that a number of archaeological sites were identified in the surrounding area.

Much of the tract consists of relatively poorly drained sandy loams, typically overlaying clay soils. The profiles, where not affected by phosphate mining, reveal reduced soils throughout. Although we did not encounter any standing water, many of the shovel tests yielded moist soils and, in the areas adjacent to the marsh, we did have water filtering into the tests.

The tract was investigated using shovel tests placed at 100 foot intervals on transects spaced 100 feet apart. In addition, pedestrian survey was conducted along the marsh edge.

The low topography and absence of a distinct marsh bluff edge seems to limit prehistoric use. Historic research revealed that the parcel had been part of a much larger plantation, although it appears that this particular area was not intensively cultivated and was perhaps wooded until the postbellum when it appears to have subjected to phosphate mining.

The Middleton Place property is situated approximately 3,000 feet southwest from the study tract, on the opposite shore of the Ashley River. The main structure (originally a flanker) at Middleton Place is about 3,540 feet from the study tract and there is about 19 feet difference in elevation between the two areas (Figure 13). The distance from the plantation's rice mill to the study tract is 3,185 feet and there is about 16 feet difference in the two elevations. From the edge of the Middleton Place shore to the study tract is 3,265 feet and the difference in elevation is about 14 feet. In each case the study tract is situated at a lower elevation than Middleton.

The visual affect may be minimized by maintaining a vegetative buffer. At other parts of nearby Whitehall Plantation, Bailey et al. (1999) recommended a 100-foot buffer as adequate. This seems, however, to depend on where structures intend to be constructed and the number of stories proposed. We simply recommend that the plan of the development take into consideration this need to minimize visual intrusion. This may be accomplished by use of a vegetative buffer incorporating a variety of plant materials capable of providing screening at different heights (and throughout the year) with a lot layout that distributes the structures as far inland as possible. Furthermore, the State Historic Preservation Office should be consulted in the development and review of plans for the preservation of the river view-corridor and the Middleton Place view-shed.

With this one exception, we recommend no additional cultural resource management activities on this tract, pending review and concurrence by the State Historic Preservation Office.

It is possible that archaeological remains may be encountered in the corridor during maintenance activities. As always, the developer's contractors should be advised to report any discoveries of concentrations of artifacts (such as bottles, ceramics, or projectile points) or brick rubble to the project engineer, who should in turn report the material to Chicora Foundation or the State Historic Preservation Officer. No further land altering activities should take place in the vicinity of these discoveries until they have been examined by an archaeologist.

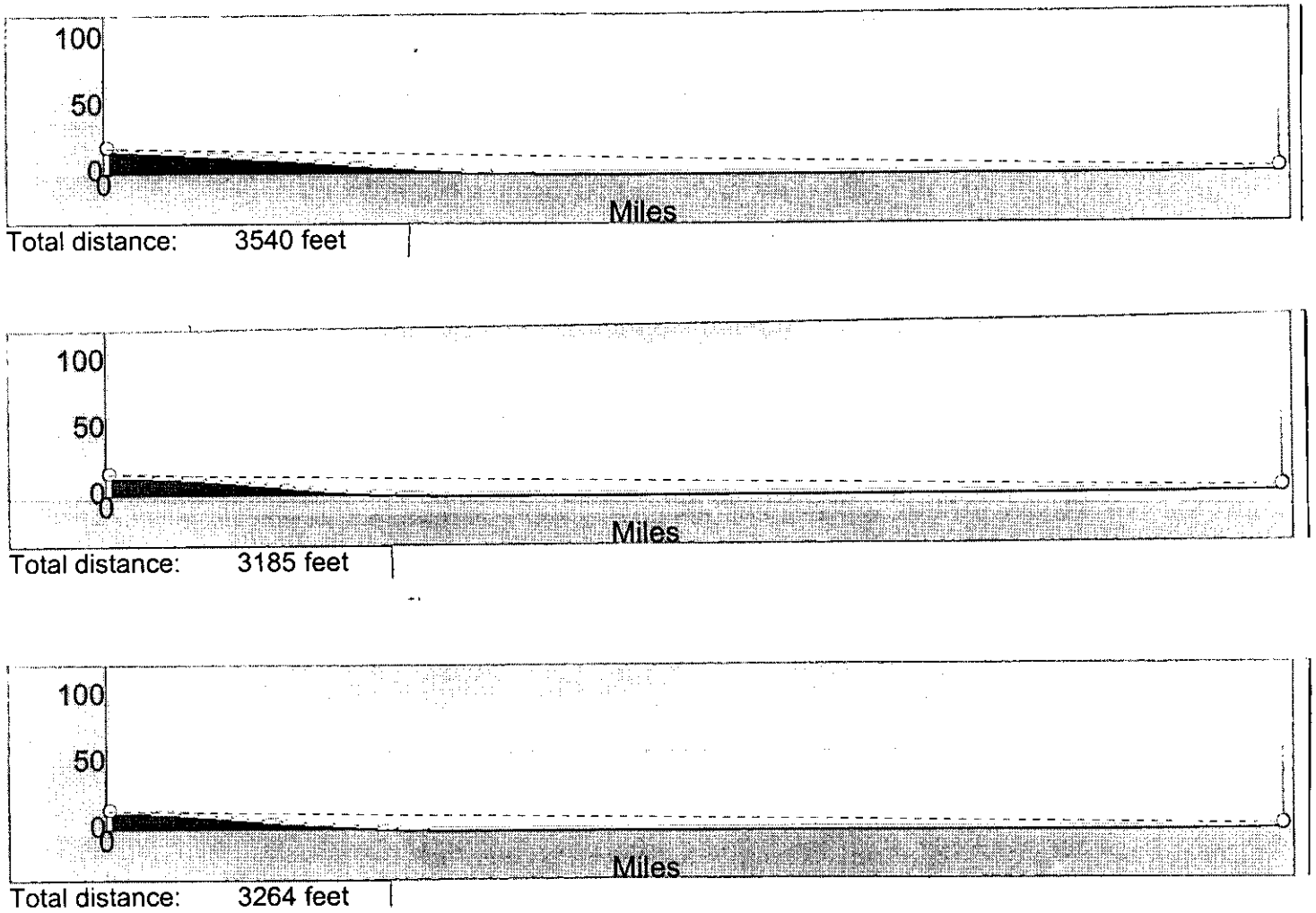


Figure 13. Profiles of the lines of sight from the Middleton Place flanker, Rice Mill, and shoreline (from top to bottom) to the study tract.

SOURCES CITED

Anderson, David G.

1979 *Excavations at Four Fall Line Sites: The Southeastern Beltway Project.* Commonwealth Associates, Inc., Jacksonville, Michigan. Submitted to the South Carolina Department of Highways and Public Transportation, Columbia.

Anderson, David G., Charles E. Cantley, and A. Lee Novick

1982 *The Mattassee Lake Sites: Archaeological Investigations Along the Lower Santee River in the Coastal Plain of South Carolina.* Commonwealth Associates, Jackson, Michigan.

Bailey, Ralph, Jr., Eric C. Poplin and Charles F. Phillips, Jr.

1999 *Archaeological Survey of the Whitehall II Tract, Dorchester County, South Carolina. Final Report.* Bockington and Associates, Atlanta.

Beck, Monica

1998 Archaeological Investigations at the Colonial Village of Old Dorchester. *Features and Profiles,* July-August 1998:1-7.

Blanton, Dennis B., Christopher T. Espenshade, and Paul E. Brockington, Jr.

1986 *An Archaeological Study of 38SU83: A Yadkin Phase Site in the Upper Coastal Plain of South Carolina.* Garrow and Associates, Inc., Atlanta.

Brockington, Paul, Michael Scardaville, Patrick H. Garrow, David Singer, Linda France, and Cheryl Holt

1985 *Rural Settlement in the Charleston Bay Area: Eighteenth and Nineteenth Century Sites in the Mark Clark Expressway Corridor.* Garrow and Associates, Atlanta. Submitted to the S.C. Department of Highways and Public Transportation, Columbia.

Brown, Paul J.

1975 *Coastal Morphology of South Carolina.* Unpublished M.S. thesis, Department of Geology, University of South Carolina, Columbia.

Cable, John

1991 *Archaeological Test Excavations on the Northeastern Perimeter of the Buck Hall Site (38CH044), Francis Marion National Forest, South Carolina.* New South Associates, Irmo, South Carolina.

Caldwell, Joseph R.

1958 *Trend and Tradition in the Prehistory of the Eastern United States.* Memoirs of the American Anthropological Association 88.

Carrillo, Richard F.

1973 *Preliminary Archaeological Investigations at Fort Dorchester (38DR4).* Research Manuscript Series 39. South Carolina Institute of Archaeology and Anthropology, Columbia.

Coe, Joffre

1964 *The Formative Cultures of the Carolina*

Piedmont. Transactions of the American Philosophical Society 54(5).

Cooke, C. Wythe
1936 *Geology of the Coastal Plain of South Carolina*. Bulletin 867. U.S. Geological Survey, Washington, D.C.

DePratter, Chester
1979 Ceramics. In *The Anthropology of St. Catherines Island 2. The Refuge-Deptford Mortuary Complex.* Anthropological Papers of the American Museum of Natural History 56(1): 109-132.

Derting, Keith M., Sharon L. Pekrul, and Charles J. Rinehart
1991 *A Comprehensive Bibliography of South Carolina Archaeology*. Research Manuscript Series 211. S.C. Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Edgar, Walter B., editor
1972 *The Letterbook of Robert Pringle*. 2 vols. University of South Carolina Press, Columbia.

Eppinette, Robert T.
1990 *Soil Survey of Dorchester County, South Carolina*. Soil Conservation Service, United States Department of Agriculture, Washington, D.C.

Ferguson, Leland G.
1971 *South Appalachian Mississippian*. Ph.D. dissertation, University of North Carolina, Chapel Hill. University Microfilms, Ann Arbor, Michigan.

Goodyear, Albert C., John H. House, and Neal W. Ackerly
1979 *Laurens-Anderson: An Archaeological Study of the Inter-Riverine Piedmont*. Anthropological Studies 4, Occasional Papers of the Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Guerard, A.R.
1884 *A Sketch of the History, Origin and Development of the South Carolina Phosphates*. Walker, Evans and Cogswell, Charleston, South Carolina.

Hanson, Glen T., Jr.
1982 The Analysis of Late Archaic-Early Woodland Adaptive Change Along the Middle Savannah River: A Proposed Study. *South Carolina Institute of Archaeology and Anthropology Notebook* 14:1-38.

Kjerfve, Bjorn
1975 Climatology of Kiawah Island. In Environmental Inventory of Kiawah Island, edited by William M. Campbell and John Mark Dean, pp. C1-C34. Evironmental Research Center, Inc., Columbia.

Lefler, Hugh T., editor
1967 *Lawson's A New Voyage to Carolina*. University of North Carolina Press, Chapel Hill.

Lewis, Kenneth E. And Donald B. Hardesty
1979 *Middleton Place: Initial Archaeological Investigations at an Ashley River Rice Plantation*. Research Series 148. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Mason, Robert E.
1976 *A Historical Geography of South Carolina's Sea Island Cotton Industry*. Unpublished M.A. thesis,

Department of Georgraphy, University of South Carolina. Columbia.

Mathew, William M.
1992 *Agriculture, Geology, and Society in Antebellum South Carolina: The Private Diary of Edmund Ruffin, 1843*. University of Georgia Press, Athens.

Mathews, Maurice
1954 A Contemporary View of Carolina in 1680. *South Carolina Historical and Genealogical Magazine* 55:153-159.

Mathews, Thomas D., Frank W. Stapor, Jr., Charles R. Richter, John V. Miglarese, Michael D. McKenzie, and Lee R. Barclay
1980 *Ecological Characterization of the Sea Island Coastal Region of South Carolina and Georgia, vol. 1*. Office of Biological Services, Fish and Wildlife Service, Washington, D.C.

Michie, James
1977 *The Late Pleistocene Human Occupation of South Carolina*. Unpublished Honor's Thesis, Department of Anthropology, University of South Carolina, Columbia.

Mills, Robert
1972 [1826] *Statistics of South Carolina*. Reprinted. The Reprint Press, Spartanburg, South Carolina.

Morgan, Phillip D.
1977 *The Development of Slave Culture in Eighteenth Century Plantation America*. Unpublished Ph.D. dissertation, University College, London.

Oliver, Billy L.
1981 *The Piedmont Tradition: Refinement of the Savannah River Stemmed Point Type*. Unpublished Master's thesis, Department of Anthropology, University of North Carolina, Chapel Hill.

Phelps, David A.
1983 Archaeology of the North Carolina Coast and Coastal Plain: Problems and Hypotheses. In *The Prehistory of North Carolina: An Archaeological Symposium*, edited by Mark A. Mathis and Jeffrey J. Crow, pp. 1-52. North Carolina Division of Archives and History, Department of Cultural Resources, Raleigh.

Ryan, Thomas M.
1972 *Archaeological Survey of the Columbia Zoological Park, Richland and Lexington Counties, South Carolina*. Research Manuscript Series 37. South Carolina Institute of Archaeology and Anthropology, University of South Carolina, Columbia.

Sandifer, Paul A., John V. Miglarese, Dale R. Calder, John J. Manzi, and Lee A. Barclay
1980 *Ecological Characterization of the Sea Island Coastal Region of South Carolina and Georgia*, vol. 3. Office of Biological Services, Fish and Wildlife Service, Washington, D.C.

Sassaman, Kenneth E., Mark J. Brooks, Glen T. Hanson, and David G. Anderson
1990 *Native American Prehistory of the Middle Savannah River Valley*. Savannah River Archaeological Research Papers 1. Occasional Papers of the Savannah River Archaeological Research Program, South Carolina Institute of Archaeology and Anthropology, University of South Carolina.

Shick, Tom and Don Doyle
1985 The South Carolina Phosphate

boom and the Stillbirth of the New South, 1867-1920. *South Carolina Historical Magazine* 86:1-31.

Service, E.M.
1966 *The Hunters*. Prentice-Hall, Englewood Cliffs.

Smith, Henry A. M.
1905 The Town of Dorchester, in South Carolina - A Sketch of its History. *South Carolina Historical and Genealogical Magazine* 6(2):62-95.

1988 *The Historical Writings of Henry A. M. Smith*. Vol. 1. The Reprint Company, Spartanburg, South Carolina..

Smith, Lynwood
1933 *Physiography of South Carolina*. Unpublished M.S. Thesis, Department of Geology, University of South Carolina, Columbia.

South, Stanley A.
1976 An Archaeological Survey of Southeastern North Carolina. *South Carolina Institute of Archaeology and Anthropology Notebook* 93.

Stoltman, James B.
1974 *Groton Plantation: An Archaeological Study of a South Carolina Locality*. Monographs of the Peabody Museum 1, Harvard University, Cambridge.

Taylor, Richard L.,editor
1984 *Cultural Resources Survey of the Proposed Pee Dee Electric Generating Facility in Florence County, South Carolina*. Commonwealth Associates, Jackson, Michigan.

Trinkley, Michael
1980a *Additional Investigations at 38LX5*. South Carolina Department of Highways and Public Transportation, Columbia.

1980b *Investigation of the Woodland Period along the South Carolina Coast*. Ph.D. dissertation. Department of Anthropology, University of North Carolina, Chapel Hill.

1990 *An Archaeological Context for the South Carolina Woodland Period*. Chicora Foundation Research Series 22. Chicora Foundation, Inc., Columbia, S.C.

Trinkley, Michael, Debi Hacker, and Natalie Adams
1993 *Life in the Pee Dee: Prehistoric and Historic Research on the Roche Carolina Tract, Florence County, South Carolina*. Research Series 39. Chicora Foundation, Inc., Columbia.

Walker, Legare
1941 *Dorchester County*. n.p., Charleston, South Carolina.

Walthall, John A.
1980 *Prehistoric Indians of the Southeast: Archaeology of Alabama*. University of Alabama Press, University.

Ward, Trawick
1978 *The Archaeology of Whites Creek, Marlboro County, South Carolina*. Research Laboratories of Anthropology, University of North Carolina, Chapel Hill.

1983 Whites Creek: The Second Time Around. *South Carolina Antiquities* 15:63-65.

Wheaton, Thomas R., Amy Friedlander, and Patrick Garrow
1983 *Yaughan and Curriboo Plantations: Studies in Afro-American Archaeology*. Soil Systems, Inc., Marietta,

Georgia. Report submitted to the National Park Service, Archaeological Services Branch, Atlanta.

Williams, Stephen B., editor
1968 *The Waring Papers: The Collected Works of Antonio J. Waring, Jr.* Papers of the Peabody Museum of Archaeology and Ethnology 58.